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ABSTRACT

This paper explores the historical and philosophical basis of naturalistic education. The exploration focuses on prominent epistemological views of the relationship between sensation and thought. Three time periods of intellectual study were considered: (1) the classical period during which Plato established the model for philosophic inquiry and introduced dualism and Aristotle provided the basis for realism; (2) the Christian period during which St. Augustine established the core of Christian theological supernaturalism and Aquinas blended Christian and Aristotelian thought; and (3) the modern period during which Locke introduced scientific thinking into philosophy, Rousseau established naturalistic ideology into conventional thought, and Dewey formalized a naturalistic, organic philosophy. Connected views of educational theory and practice are also examined, including: (1) classical education for the privileged class which focused on practical skills or oratory or conceptual intellectual abilities; (2) formal Christian education that was used as a means of religious indoctrination focusing on spiritual salvation; and (3) modern education that has focused more on individual, natural development and is moving toward teaching a process of inquiry instead of traditional procedures of action and reaction. This paper suggests that Western educational thought has moved in general accordance with philosophical thought and has become more humanly central. (LP)

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EXPLORING THE FOUNDATIONS OF PHILOSOPHY OF NATURAL EDUCATION

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Abstract

The conference workshop based on this paper will actively and uniquely explore the historical and philosophical basis of naturalistic education. Western educational thought will be reviewed in a concise, concrete and contemplative manner which will also be action-based and experiential. This exploration will lead to a greater understanding of the theoretical foundations of the contemporary experiential education movement.

Introduction

Much of intellectual discourse over the past two and a half millennia of Western culture has been focused on how human beings attain knowledge. The efforts in this pursuit, the theories of epistemology, can be considered from various perspecuives depending upon the motive of the consideration. One of the broadest realms for approaching such investigations begins with the study of the ultimate aspects of reality; metaphysics. In traditional Western thought, questions regarding ultimate reality are approached from an *either/or* perspective. Is reality ultimately temporal and natural, i.e. based on that which we actually encounter around us on a daily, lifelong basis; or eternal and supernatural, i.e. based on an intangible otherworldly source? Historically, Western culture can be reviewed in epochs during which various versions of each of these metaphysical perspectives have guided philosophical and conventional wisdom. Most recently, the temporal-natural view of ultimate reality, **naturalism**, has been intellectually popular, while **supernaturalism**, particularly Christianity, continues to be conventionally popular.

Within these metaphysical realms, there are various epistemological views of how human reasoning works, how we come to know. The most commonly considered epistemological views having to do with the origin of true knowledge are: **rationalism** - emphasizing the primacy of sensations in determining certainty. Indeed, the sensation-contemplation connection has been continuously debated by philosophers and may come to symbolize one of the defining articles of intellectual culture during the entire Western epoch. Currently, scientific empiricism is considered to be the most valid avenue to certainty.

In Western culture, education has been thought of as a purposeful form of human interaction; a means of indoctrinating and/or enculturating youth and a means of producing the best citizens. The vision of its outcome objective has varied depending upon the prevailing intellectual or conventional perspective, which have not always been congruent. Actually, philosophy as a type of inquiry, emerged from the ancient Greek debate as to the purpose of education. Was it to prepare individuals for citizenry directly, through instruction in the skills and craft of citizenry, or indirectly, through the expansion of conceptual abilities? In such a debate, education also becomes a central ethical concern, an issue of the properness with which humans interact and establish their norms and institutions for interaction. Thus, the prevailing philosophy of education, as with politics and economics, has been dependent upon prevailing metaphysical views. Likewise, the *means* of education, curricular and pedagogical, has been dependent upon prevailing epistemological views.

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Contemporary philosophies of education generally reside within the conceptual framework of naturalism and scientific empiricism.

However, contemporary education practices have maintained numerous traditional structures which do not authentically reflect this philosophy. In an attempt to come to a greater understanding of the context of contemporary education, this paper will explore the foundation of naturalism as a philosophy of education by tracing the progression of views regarding the epistemological connection between sensation and reflection. The main theorists to be considered are Plato, Aristotle, St. Augustine, Thomas Aquinas, John Locke, J.J. Rousseau and John Dewey, since their ideas contributed significantly to the development of the current philosophical paradigm of education.

THE CLASSICAL EPOCH

During the early formation of Western culture, a number of factors caused the initiation of a previously unrealized discourse on the nature of existence. An attitude of scepticism developed, a sort of critical view, as to the actual certainty of beliefs which had previously been held to be true. As the fallacy of many of these ancient beliefs became realized, the critical perspective grew to encompass questions regarding the very nature of knowledge and reality. The discourse centered upon the debate as to which aspect of the *two distinct aspects of human nature* — the objective faculties of the senses *or* the subjective abilities of contemplation — could best lead to ultimately true knowledge. Such inquiry formed the essence of **dualism** — viewing things and ideas as consisting of competing opposites.

Plato (427-347 B.C.)

The pre-Socratic Greek thinkers initiated the discourse and the dichotomy of views. However, it was Plato, based on the views of his mentor Socrates (c. 470-399 B.C.), who initially organized the discourse into a complete contemplative system, thus fabricating the earliest sustainable philosophical perspective. As a means of understanding the truth of intangible ideas such as justice, truth, goodness and beauty, Plato devised a metaphysical theory of their actual existence based on the concept of ideal Forms. In such a view, referred to as **idealism**, realism is based upon unchanging, eternal, universal Forms which exist in a supernatural state and which act as archetypes for the concepts which are depicted in the world around us in various degrees of correctness. For Plato, the Forms are eternal and divine. This same theory of Forms can be used to explain tangible items. As an object is the true source of its shadow, and the shadow a mere, unreliable image of its source, so the cup next to me is an imperfect rendition of the actual, ideal conceptual Form of a cup. Similarly, the human body is but a rendition of an ideal conceptual Form. However, the human being also consists of a separate intellectual faculty, the mind, which distinguishes us from other living beings. Since earthly objects and interactions are imprecise depictions of ideal Forms, it must be that our ability to reason, our rationality, is a more true avenue toward absolute knowledge than is our body and it's the faculty of senses.

Continuing with this framework, Plato developed an epistemology to explain how we can come close to, but not quite achieve, knowledge of absolute truth. He theorized that such knowledge is a permanent part of our minds. And that the mind is an aspect of the soul, which resided among the ideal Forms before becoming encased in this world. Knowledge, then, is innate, contained within our minds from the time of birth. It surfaces to a limited degree through common interactions, but can only be recalled more fully through the use of reason, particularly sustained intellectual discourse of a dialectical style. The ethics of this theory asserts that human interactions and institutions ought to be purposefully oriented toward surfacing individual innate knowledge for the general benefit of society.

Such idealism, supernaturalism, dualism, and rationalism exemplify Platonic thought: the objective ambient stuff, is actually a perception of reality, mere images of essential reality which exists only in the state of ideal Forms divinely originated, which we can come to know through our rational abilities. In this formulation, the significance of contemplation exceeds that of sensation. Thus, formal education ought to be designed to develop conceptual and intellectual abilities. For Plato, as with most ancient Greek theorists, formal learning was for the privileged class since they would be the ones to guide society. The question, then, became how to create a learning environment which could most efficiently and effectively recall innate knowledge. Plato contended that the best such learning environment would be one which fostered a virtuously intimate dialogical relationship between the teacher and the learner thus enabling *both* to achieve a higher degree of conceptual consciousness regarding the ideal Forms. The etymology of the word education has to do with such virtuously intimate and purposeful sharing. Such a *process* approach was in contrast to other prominent Greek thinkers and teachers, the Sophists, who favored a more practical and vocational learning environment which viewed the teacher-learner relationship as a purposeful *means* of imparting specific information and oratory skills.

Aristotle (384-322 B.C.)

Expanding the dualism of Plato's metaphysics, Aristotle contended that all objects were actually composed of two distinct components: matter, an object's actual physical make-up, i.e. its being (as in "This is a man."); and form, an object's conceptual design, i.e. its beingness (as in "Being a man."). Also for Aristotle, there was an ultimate supernatural realm. However, beyond these basic similarities, Aristotle differed considerably with Plato. Whereas Plato theorized that the supernatural Forms are themselves ultimately real and that objective, ambient images are mere representations which are dependent upon human conception, Aristotle proposed that the objects around us are themselves real, and are, thus, objects which exist independently of human conception. With this view, Aristotle established the basic foundation of **realism** in contrast to Plato's classic idealism. For Aristotle, the ultimate supernatural is a *causer of change* instead of a source of reality.

Aristotle developed an epistemological perspective which extended realism. Humans are unique beings in that they have been endued with a mind, the intellectual aspect of their form, which provides the opportunity from rationality. We use this rationality to come to understandings through sensation (absorbing information of the objective world) and abstraction (conceptualizing from that information). In this way, all knowledge begins with experience, and exudes from reflection. Since reality is temporal and natural for Aristotle, his ethical theory indicates that the ultimate good to be achieved by humans is "happiness", which he considers to be the fullest "exercise of natural human faculties" in accordance with intellectual and moral virtue, e.g. to live a moderate and balanced life of pleasure, socialization, and contemplation.

Thus, while maintaining basic aspects of Plato's philosophic formulation — dualism, supernaturalism and rationalism — Aristotle also launched considerably different views which led to the later development of realism and naturalism. His epistemological view implies emphasizing the importance of a balance between sensation and contemplation, and the primacy of experience over intellectualization. In agreement with Plato, though, Aristotle signified that the imperative of formal education was to develop individuals' implicit capabilities of intellectual and moral virtue beyond explicit skills or techniques. Unfortunately, he did not formulate a comprehensive and sustainable, philosophy of education. Instead, formal education throughout Greek and Roman time remained verbalistic and continued to revolve on the debate over which method — Plato's process approach of dialectical speculation or then Sophist's means approach of practical oration — would be most effective in achieving the mythical ideals of best citizenship.

The Christian Epoch

Intellectual thought between the disintegration of the Roman Empire in the fifth century and the emergence of modern philosophy in the mid-seventeenth century was dominated by Christian Theology. Grand intellectual efforts on the scale of Socrates, Plato, and Aristotle were less frequent during this epoch for many reasons, including the loss of much of ancient Greek writing throughout Roman rule and the decentralization of Medieval societies. Only two theorists developed prevailing views: St. Augustine and Thomas Aquinas. Both of these views and their many adjuncts remained congruent with versions of Platonic and/or Aristotelian philosophy except for the significant addition of God.

St. Augustine (354-430)

St. Augustine developed the classic Christian Theology. He maintained the theme of Platonic dualism of reality contending that all objects consist of substance and faculties. Humans consist of body and soul. He also proposed that the true forms of objects originate in the mind of God, as does the human soul. However, as with Aristotle, objects also existed as particulars, independent of their form. Thus, coming to know could be initiated with a combination of sensation and contemplation, the powers of human intellect. But, attaining true knowledge meant achieving a union with God which could only be accomplished through pure faith, the power of human will to believe in divine doctrine without objective verification. The use of faith as a means of attaining true knowledge quelled the need for continued critical epistemological exploration.

Augustinian ethics declared that living properly meant to believe and behave in accordance with divine law, as was the norm before the Fall of Adam and Eve. That event marks a turning point in which humans began to chose to act out of accordance with divine law — sinfully — thus altering the norm and causing all sorts of problems for future humanity. Basically, Augustine explained the problems of humanity by asserting that ever since the Fall, humans have been born in a state of spiritual deprivation, a sort of inherent emptiness which tends toward evil if not kept in check. The only resolution to such individual and collective spiritual deprivation is the use of the will to maintain and spread faith, *over* the power of the intellect to sustain and disseminate knowledge. Overall, then, it was faith that had primacy over experience or reason.

In order to best serve the Christian ethic, both formal and informal education ought to be purposefully designed to indoctrinate the under-educated (both youth and the masses in general) in proper behavior and belief as mandated by divine law. This vision supported the widespread advancement of basic skills of literacy, particularly during the Reformation. Spreading the skills of literacy for the sake of indoctrination into the Christian ethic significantly influenced the practice of education. Indeed, it was during this time, and under this vision, that elaborate, formal, compulsory educational systems, elementary to university level, began to be firmly established for the general population.

Thomas Aquinas (c. 1225-1274)

As a result of the crusades, much of the 'lost' ancient Greek writing was reintroduced to Western intellectuals from the Arabic east. It seems however, that many aspects of Augustinian thought were challenged by Aristotelian thought. Basically, Aristotle viewed ultimate reality and ultimate good as being temporal and natural whereas Augustine viewed them as being eternal and supernatural. The extrapolations of these differences became significant and needed to be addressed. Thomas Aquinas developed a view which served to maintain the prominence of both views by combining aspects of each and in so doing launched a contemporary version of realism. Aquinas managed to

do this by further strengthening the metaphysical dualism of previous theorists. He contended that there are actually two realities — natural and spiritual. The ambient reality in which we function is actual reality governed by a patterned set of natural laws. Instead of a reality of universal forms, the supernatural world exists as a spiritual reality with God as the Creator. The key is that the physical world is a natural manifestation of divine laws. True knowledge of spiritual reality can be approached through faith and divine inspiration while true knowledge of worldly reality can be approached through observation and reasoning. Finally, there are two ethical "goods": the temporal good of worldly happiness which can be gained through appropriate use of reason; and the eternal good of spiritual union which can be gained through compliance with church doctrine.

Aquinas' philosophical views served to support existing educational philosophy, which remained essentially Christian through the Reformation. However, Aquinas did propose influential views on the practice of education. Since, according to Aquinas, true knowledge could be approached through the use of reason and faith, the role of teachers was one of scholar-theologians who pursued an in-depth understanding of their topic through intellectual study and prayer. It then became their moral responsibility to organize and present their findings to students. Based on the primacy of faith, such presentation ought to be done in a very specific manner: beginning with the presentation of self-evident "first principles" (divinely mandated natural laws) and then drawing demonstrable conclusions deductively, by means of syllogistic reasoning. This manner of instruction, which was rooted in Aristotle's method of philosophic inquiry, represents the method of formal inquiry popular at the university level during that time. It became known as the scholastic method and it remains influential at many levels of contemporary teaching.

The Modern Epoch

Unlike the relative social stability of the previous centuries, Western societies entered a period of consistent change during the fifteenth, sixteenth and seventeenth centuries which served as a transition between the Christian epoch and the Modern epoch. Renaissance thinkers in the early part of this transition period reignited interest in ancient Greek and Roman ways, and shifted intellectual discourse from speculative philosophy and theology toward a more secular, temporal outlook, thus ushering in a new and improved view of classical human-centered existence. Religious reformers during the middle part of this period either accepted or rejected the new humanistic perspective and attempted to devise institutions which would blend it with their views or deny it altogether. Enlightenment thinkers at the end of this transition ushered in the Modern epoch by initiating a challenge to existing paradigms through a reliance on the newly emerging natural sciences of scholars such as Newton. The intellectual discourse on formal education during the transition was subject to the forces of each of these views and was, thus, in a state of continuous flux. In general, it was during this period that education became formal as we know it: with a highly structured literacy-based curriculum, governed by compulsory attendance and regimented interaction, formalized through verbalistic and conceptual pedantic instruction. It was toward the end of this period that education became less subjective and more exacting as it was influenced by the interest in natural science and empiricism, as exemplified by John Locke.

John Locke (1632-1704)

With *An Essay Concerning Human Understanding* (1690), John Locke concretely established empiricism as the foundation of sensation-primacy epistemology. In this almost excruciating account of the manner of human understanding, he outlines an empirical view of the way in which we attain *ideas*, the building blocks of knowledge. (Pure philosophical empiricism, established by later theorists, extends beyond Locke's explanation of the empirical attainment of ideas to claim that all

existence is a sensation-reaction oriented, thus, leading to behaviorism). Locke began by proving the fallacy of the existence of innate ideas, which had been a cornerstone of Western epistemology since the time of Plato. How is it possible, he asks, for ideas to be innate, as with the mental impressions of the universal Forms that Plato believed we were born with, and yet for some of those ideas never to be noticed or recalled? How is it that if ideas are innate, children and the under-educated do not realize them? He continues with such questioning and other critical arguments then goes on to postulate:

> The senses at first let in *particular* ideas, and furnish the yet empty cabinet, and, the mind by degree of growing familiar with some of them, they are lodged in the memory, and names are got to them. Afterwards, the mind proceeding further abstracts them, and by degrees learns the use of general names. In this manner the mind comes to be furnished with ideas and language, the materials about which to exercise its discursive faculty. And the use of reason becomes daily more visible, as these materials that give it employment increase. But the having of general ideas and the use of general words and reason usually go together, yet I see not how this in any way proves them innate.[1]

For Locke, then, all of our ideas are based on, "...in one word, *experience*". There are two origins of these ideas: the objects around us which we encounter through our senses, sensation; and the operations of our minds upon the ideas received through the senses *and* upon its own internal workings, reflection. In attempting to clearly articulate a process which he believed to be fairly obvious, Locke outlined a specific typology of ideas and mental operations in support of his "new theory of ideas". Simple ideas being those which we receive passively in the most direct and succinct manner from an external object or through the mind's reflection upon its own actions, and complex ideas being various combinations of simple ideas. He goes on to specify types and degrees of knowledge.

Locke applies his empirical view toward metaphysical and ethical considerations as well. Though he maintains the existence of God — since we are certain of our own existence, and know intuitively that "Nothing cannot produce a being"[2], then something must have produced us — he implies that the Christian concepts of human spiritual deprivation, free will and faith are not valid. Instead human beings have two faculties: understanding and will. *Understanding* provides for the opportunity to attain knowledge and to develop desires. Choosing what to do with the knowledge and how to satisfy the desires is the operation of the *will*. However, the choices that one makes are influenced by the ideas which one has, which are dependent upon one's environment and personal history of experiences. Instead of being spiritually deprived yet innately knowledgeable, and having a free will to chose to live in, or out of, accordance with divine law, human beings have a mind which begins as a blank slate upon which individual experiences make impressions, thereby imparting basic knowledge and influencing future choices. These choices will be made depending upon what will produce the highest good for the individual. This perspective was based on his view that pleasure and pain are *the* essential motivators, yielding an inherent sense of self-centredness and self-preservation. Ethically, it is our moral obligation to create social systems in which it is recognized that the highest good for the individual can also be the highest good for the community. Furthermore, we ought to implement civil laws in accordance with natural laws (which are manifestations of divine law) to establish individual compliance with wider social norms. The role of education is to produce citizens who are knowledgeable and imbued with a sense of moral

[1] p.72; *An Essay Concerning Human Understanding*

[2] p. 379; *An Essay Concerning Human Understanding*

responsibility.

Indeed, by asserting the error of innate ideas and declaring the "new theory of ideas", Locke significantly supported the view of education as an ordinary part of the natural process of *human development*. In this view, human development would function in accordance with natural law when unrestrained by human intervention, yet *purposeful* human intervention could enhance individual and collective *human knowledge*. The *means* of such purposeful intervention ought to be in accordance with the natural process of human development. This implies that the best way to increase knowledge would be to expose learners to a variety of situations so as to develop a multitude of ideas and then to have them compare and contrast those ideas so as to come to new ideas and more complex knowledge. Such an inductive learning process is in contrast to the deductive learning process based on the scholastic method which remained prevalent in formal education during Locke's time. Instruction in such a Lockean system would probably be experience-oriented (both tactile and dialogical experience), student-centered, and involve substantial reflective time. However, despite the potential effects of this view of knowledge to naturalize education, Locke and the empiricists which followed him, had little direct influence on formal educational practices. Education based on nature's ways would need to be described in a somewhat less abstract, more dynamic manner. Enter J.J. Rousseau.

Jean Jacques Rousseau (1712-1778)

Rousseau's work regarding education was less speculative than that of other theorists reviewed here. Instead of writing on the nature of existence, the pathway to certainty, or the potential of ultimate reality, in *Emile* (1762) he wrote about the educational relationship between a mythical, privileged-class boy, Emile, and his tutor, Rousseau. An overall premise regarding human nature is summarized in the first line of the book, "Everything is good as it comes from the hands of the Maker of the world, but degenerates once it gets into the hands of man". Human beings are actually inherently good and filled with potential. It is the destructiveness of the social systems in which they live that acts to cause their degeneration. However, if left to a fully unattended maturation they would surely wither even more so. Thus, educational processes need to be designed which will *support* a proper maturation process, at the rate and within the style of each individual learner. Concurrently these systems must avoid the destructiveness of processes which attempt to *control* maturation, for the benefit and ease of the teacher or system. Such a supportive process would necessitate an attitude whereby the learner is viewed as an individual and unique human person from the time of birth onward, instead of being viewed as a common entity to be enculturated and developed through a standard, predetermined procedure.

In the story, Rousseau takes Emile to live in the isolation of the country, where he can grow unrestricted by the artificial constructs and norms of the degenerative social environment of the town. Throughout his upbringing, Rousseau continues to have Emile *use* the physical natural environment as a direct and indirect guide to knowledge, values, and truth. The story depicts a form of education which considerably extended the view of naturalism, which advocated the properness of living *in accordance with* the natural environment and natural laws, toward a radical view of living *by means of* nature's ways. Such an extension has endued Rousseau's ideas with an air of quaint naivete and impracticality yet underlying authenticity which has become known as romanticism. Considering the story beyond the restraints of a "How To" guide, however, allows it to be viewed metaphorically as an indicator for natural education. It provides many direct suggestions, as well as indirect overall principles for the purposeful creation of practical learning situations which are closely in accordance with human nature, human interaction, and human development. These principles can be used as a foundation for the creation of learning environments which are naturally inductive and experiential and are thus applicable throughout educational

situations. Examples of these guiding principles are:

- recognizing the vitality and distinctiveness of natural stages of human development from infancy to young adult — dependence to independence to interdependence
- following the learner's natural curiosity and providing appropriate learning situations at appropriate times through *experiences*
- allowing the learner to struggle with problems and discover solutions,; enabling the learner to induce concepts through reflective dialogue and questioning; acknowledging and affirming the learner's emotions
- combining disciplines and domains (intellectual, physical, moral, spiritual)
- paying attention and serving to balance the androgynous dualism of human nature

  (This last point is speculatively abstracted from the equally attentive yet procedurally different educational processes provide for Emile and Sophie, neither of which was complete until they were combined together, as in Emile and Sophie's marriage.)

- having the tutor/educator work as a guide and companion using instruction which is learner-centered and experiential, never pedantic

Rousseau's ideas were philosophically appropriate for his period, following and based on the optimism and certainty of natural science, yet they did not have a great effect on existing educational structures. However, they have significantly influenced educational theory over the years, particularly with the notion of treating children as individual learners and attempting to identify with greater clarity the natural periods of human growth. The most practical and valid rendition of natural education came through Johann Pastalozzi (1746-1827); an educator who attempted to formalize many of Rousseau's thoughts and to implement them in a number of schools in Switzerland. Pestalozzi became quite well known and his schools became models and training centers for natural education. However, as primarily a practitioner, he, like Rousseau, developed a body of conventional wisdom regarding natural education, much of which remains relevant and influential, as opposed to a sophisticated philosophy of naturalistic education. Theories and methods of natural education found some support and limited implementation in England and the United States, though in one of the most widespread interpretation of Pestalozzinism (Charles and Elizabeth Mayo in England and Edward Sheldon in the U.S.), a major component was disregarded — the need to pay attention to the learner's emotional well-being. And so "natural education" became a pedagogical tool resembling an inductive question and answer session (undoubtedly more effective and rewarding than the traditional verbalism and memorization), once again losing sight of the significance of the relationship between the teacher and the learner — the *relational dynamic* — that the ancient Greeks viewed as a virtuously intimate and equivalent sharing.

John Dewey (1859-1952)

John Dewey's ideas exemplify the thinking of the Modern epoch by building upon and extending the views of many of the theorists and scientists since the time of Locke who gradually moved primarily intellectual discourse from Christian theological supernaturalism toward scientific naturalism. He proposed an outlook which challenged the very core conceptions of previous Western philosophic formulations and which also challenged the means of accepted philosophic inquiry. Dewey's ideas were significantly influential during the early half of this century and continue to be interpreted and expanded.

Based in a biological and evolutionary perspective of the organic, interconnected nature of all living beings, Dewey proposed a view of reality *as* human interaction with "other". Whereas all previously dominant Western views postulated some sort of external reality, either ultimately supernatural or ultimately natural, Dewey maintained that reality is more so embedded in the *meaning of experience*. This notion opposes the central metaphysical tenet of dualism by considering human nature as a whole organism, and as a part of the whole organism of nature. It also redirects the traditional epistemological consideration from *how we come to know*, which emphasizes a sensation-contemplation connection, to *how we make meaning*, emphasizing an experience-reconstruction connection. In this way, meaning is a part of each unique experience within the context of that experience, and can be enriched as the experience is intellectually reconstructed. Life is a continuous movement from problem-situation to problem-situation which pose perpetual possibilities for making meaning. Dewey believed that the way to gain more 'advanced' knowledge was to be pragmatic instead of purely speculative. He proposed approaching life's problem-situations by means of a general application of the scientific method — developing a deductively determined hypothetical solution, experimenting with it, reflecting upon the attempt and the entire experience inducing new meaning. Such **experimentalism** can lead us eventually to attain a "warranted assertability", the most practical form of knowledge, as opposed to absolute truth, which does not exist. The ethical aspect of Dewey's view of humans as a whole organism, has us holding values as an inherent part of our social nature. The problem situations that we face individually and collectively provide ongoing opportunities to make value choices and to take responsibilities for the consequences. Individuals versed in proper problem solving will develop moral intelligences in congruence with natural human values. The purpose of education, then, is to teach a method of inquiry which will best enable learners to develop such self-sustaining congruent moral intelligences. The proposed method is experimentalism, and the means of teaching it is to have the learners use it in all learning environments, formal and informal.

Dewey's view had a great impact on formal education. The Progressive Movement in the early decades of this century, adopted and adapted his pragmatic perspective and attempting to gain general acceptance for "learning by Doing". As well, Dewey contributed to a growing acceptance for "Learning by Doing". As well, Dewey contributed to a growing acceptance of scientific study and the use of the scientific method in schools. Nevertheless, as with Plato and Pestalozzi, much of Deweyian philosophy has not been authentically disseminated, particularly in regard to Dewey's assertion that formal education must develop each individual's sense of social and moral responsibility — again, the *relational dynamic* — as well as their intellectual ability.

The radical shift in Western thought accompanied by Dewey's assertion of the wholeness of human nature, and all of nature, is recently being more fully realized. The broad implications for such a view are significant as it challenges the extensive divergent dualism of Western culture which began with the ancient Greek debate as to the best means of educating youth: whether by developing *either* practical skills *or* general intellectual abilities. Through a Deweyian view, they are equally powerful and crucial since they both provide avenues of experimental inquiry. If they were balanced together, they would provide a much more effective pathway for human development than either could achieve alone. Other such dichotomies abound and have hindered human development under the inherent competitive necessity of either/or relationships in which one *must* dominate the other: mind vs. body, human vs. nature, worldly vs. spiritual, masculine vs. feminine, rich vs. poor, oppressor vs. oppressed. These dichotomies are being critically addressed in currently emerging theories and views — postmodernism, liberationism, feminism — which urge the value of balanced and congruent relationships over divergent relationships. Within such views may dwell the next epoch of Western intellectual discourse.

Summary

This paper has attempted to explore and trace the progression of views which supported the emergence of naturalism in educational philosophy. The exploration was focused on prominent epistemological views of the relationship between sensation and contemplation. Three overall epochs of intellectual study have been considered in overview of Western culture: the classical period during which Plato established *the* paradigm for philosophic inquiry and initiated dualistic formulations, and Aristotle declared the reality of ambient objects providing the basis for realism; the Christian period during which Augustine established the core of Christian theological supernaturalism and Aquinas blended Christian and Aristotelian thought; and the Modern period during which Locke introduced scientific thinking into philosophic discourse thus extending realism into naturalism, Rousseau fixed naturalistic ideology into conventional thought, and Dewey formalized a naturalistic, organic philosophy. Connected views of educational theory and practice have also been examined: classical education for the privileged class focused on either practical skills of oratory or conceptual intellectual abilities; widespread and formal Christian education was used as a means of religious indoctrination focusing on spiritual salvation; and modern education focuses more on individual, natural development and is moving toward teaching a *process of inquiry* instead of strict procedures of action and reaction.

It certainly seems clear, from this overview of philosophic thought, that education can be considered a natural aspect of human development. And that it can be purposefully influenced for the benefit of an overall visionary good. Furthermore, it becomes clear that Western educational thought has moved in general accordance with philosophical thought, both of which began divergently and abstractly and have become more *humanly central*. Such insight provides for both optimism and anxiety regarding the current educational reform movement. Optimism about the potential for it to usher in a dramatically ;more fulfilling view of holistic human development than traditional views have provided. Anxiety about the potential for the fear of change to overcome conventional wisdom thus causes a reversion to traditional methods. However, as in the view of newly emerging intellectual thought, such optimism and anxiety are the balanced halves of the potential whole. True growth *is* emotional, thus, when fear is high, change is possible.

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